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ABSTRACT

This student guide is intended to assist persons employed as supervisors in mastering the technique of value analysis. Discussed in the first three sections are the following topics: the aims and benefits of value analysis; procedures and techniques (getting started, stages of value analysis, analytical and creative thinking, and other devices); and value analysis in action (human relations and communications and procedures in organizing for value analysis). Each of these sections contains an introduction, instructional text that is interspersed with reinforcing learning activities, and a section summary. The fourth part of the guide includes a series of performance checks (an end check, a tutor check, and a work-based project). A unit review, which also includes a description of related extension courses and resources, concludes the guide. (MN)

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An Open Tech Project

SUPERVISING

TECHNICAL ASPECTS OF SUPERVISION

38: Value Analysis

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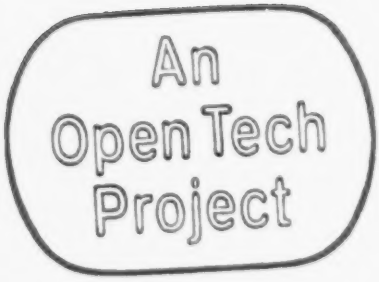
38: VALUE ANALYSIS

Vas Prabhu



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Vas Prabhu
Value Analysis (Number 38 in the CHOICE SERIES of learning units)

Series Editor: Harry V Pardue
Northern Regional Management Centre.

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WORKING GUIDE TO THIS UNIT IN YOUR DEVELOPMENT PROGRAMME

This Unit is now your personal property - it's not for handing back to your training officer or to a tutor. It is your working book.

The Contents will increase in value to you each time you write on one of its pages. This is a working text for your personal notes - without notes its value is limited.

Qualifications forget about certificates and diplomas - you don't need them for this programme. What you do need is the wish:-

* to do your job better
* for personal development

Your study time is really up to you - we guess you will need about 8 hours in total. But it's your time - spend as long as you like.

How am I doing? you can judge for yourself by checking out how well you cope with the tasks we call Activities and Self Checks which occur throughout the unit. You can also get the Tutor Check and/or the Work Based Project to your tutor for an unbiased view of your progress.

Work Pace it's really up to you and depends on your interest. However, if you do well on the Activities and Self Checks, you could afford to speed up a little. Of course, if you don't do as well as you expect then you could slow down a little or flick back into the unit for a quick review of the more difficult ideas.

When in doubt - ask or seek help from:

* your family and friends
* colleagues at work
* your company training staff
* other open learners
* your tutor, by phone, by a visit to your support centre or by dropping your tutor a line through the post.

Don't worry if what you learn doesn't seem to be of use to you now, remember that times change - it may be useful one day. Anyway, just knowing more improves personal confidence.

So now make a start:-

38: VALUE ANALYSIS by Vas Prabhu

ABOUT THIS UNIT

There is considerable pressure on businesses to reduce costs in order to cope with increasing competition. In order to succeed, businesses have to use their resources of men, money, materials and machines effectively. Value Analysis is a technique for ensuring that you are getting the best value from the work you are responsible for.

Value Analysis provides us with a systematic way of examining the design, materials and production methods which a business uses in order to cut out unnecessary costs whilst still offering the customer the value he expects.

The ideas behind Value Analysis are really common sense and so businesses often claim that they are using the technique anyway. However, its successful use depends on how well organised and co-ordinated it is. As a supervisor, you are responsible for the proper use of resources, and will find that Value Analysis techniques will help you to do this more effectively.

IN THIS UNIT WE WILL:

* Develop your understanding of value analysis techniques
* Look at the steps involved in applying the technique
* Explain some of the practical problems and issues of using the technique
* Identify the benefits of these techniques to you and your workteam.

AUDIO TAPE Side 1

Before you continue through the unit, you should listen to side 1 of the audio tape that accompanies the unit. You will find it useful if you refer to the unit objectives shown below whilst you listen to the tape. You may wish to make the objectives clearer to yourself by making a note or two on the page as you listen.

OBJECTIVES

When you have worked through this unit, you will be BETTER ABLE to:

* Understand what 'Value for Money' means
* Appreciate the logical procedures involved in using value analysis techniques
* Identify situations where you could use value analysis techniques in your work area
* Assess and account for some of the practical problems at your work place when introducing these techniques.

WHAT IS VALUE ANALYSIS?

Introduction

In this part of the unit we'll look at what we mean by the term 'Value Analysis'. In order to do that we'll first have to decide precisely what we mean by 'value'. As we'll see, we tend to give the word a number of different meanings depending on the circumstances. We'll also look at what we can attempt to achieve using Value Analysis techniques and you'll have a chance to start thinking about how it could be of benefit to you, in your workplace.

As a supervisor, whatever the nature of your particular job, you have to manage certain resources - the workteam, materials, machines, money and information. I hope this unit will enable you to take a new look at these resources and decide whether you are getting 'value for money' and, if not, how you can improve the situation.

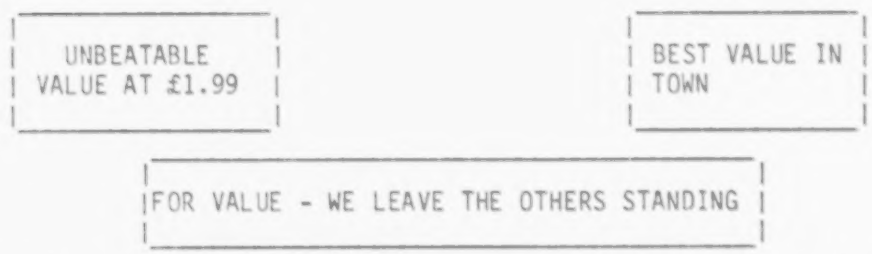
You may feel that you often have to think about ways of reducing costs and eliminating waste in order to get value for money - in other words that you're doing all this already. Of course, you're right. Getting and giving value for money is a major management consideration. I hope you'll find, though, that the techniques we'll examine will help you carry out this responsibility with greater understanding and confidence.

2 Value

What do we mean by value?

ACTIVITY 1
Time guide
3 mins

Here are three typical advertisements - the sort of thing you could see in any high street.



Jot down in a few words what you think is meant by 'value' in these advertisements.

You probably mentioned something to do with 'lowest possible price' - that's certainly the message that the advertiser is trying to put across.

So the idea of 'cost' is obviously central to our understanding of value. But there's more to it than that.

ACTIVITY 2
Time guide
5 mins

Here are some more statements, each containing the word 'value'. In each one 'value' means something slightly different.

Jot down in your own words what you think 'value' means in each statement.

* Most parents know the value of a good education.

  _____

* Gold has recently increased in value.

  _____

* Your sense of values helps you decide what are the important things in life.

  _____

Perhaps you haven't used the same words as me but I hope we can agree on these meanings of 'value'.

* 'The value of a good education means the importance or usefulness of it.

* If we say something has 'increased in value', we mean that what it is worth in money terms has increased. We could equally well say 'What is the value of your house?' meaning 'How much would you get for it?'.

  But it's important to notice that we don't always mean the actual cost or the price we paid for something. Sometimes value can be quite distinct from price. Take these statements for example.

  'I paid £5 for this picture, but its real value is much higher.'

  'The bridge cost £3 million to build but its value for local businesses is inestimable.'

* When we talk about our 'values', as in the third example, we really mean our standards or beliefs or the rules by which we choose to live.

So, when we talk about 'value' we obviously have in mind some fairly complex ideas, any of which may be relevant to bear in a particular situation.

Let's explore this a little further by going back to what we mean by 'value for money'.

ACTIVITY 3
Time guide
5 mins

Suppose you are planning to buy a new washing machine. Obviously you want value for money. Jot down five questions which you might ask before you made your mind up about what one to buy.

* _____
* _____
* _____
* _____
* _____

There are all sorts of factors you might have mentioned. As you see, I've grouped some of them under three main headings. Perhaps you'll find your questions among them.

Heading		Factor
SPECIFICATION	- Design	What does it look like?
		What size is it?
		What is it made of and what colour is it?
		Will it fit in my existing kitchen?
	- Performance	Does it do the particular washing programmes I want?
		Will it get clothes clean?
	- Reliability	Does the machine I'm looking at make up to the specification?
		Will it last?
COST	- Purchase Cost	How much does it cost?
	- Other Costs	How much does it cost to run?
		How much does it cost to maintain?
		How much does it cost to instal?
TIMING	- Delivery	How soon can I have it?
	- Reliability	Can you deliver it exactly when I want it? Are you sure about that?

The shortlist of machines from which you would make your final choice would contain those which you feel are going to perform well, be delivered when you want and are in the price bracket you are prepared to pay.

Businesses use the same standards of

SPECIFICATION

COST

DELIVERY

when they assess whether they are getting value for money and it's this view of value which we shall focus on in this unit.

P ... 1 In 'Techniques of Value Analysis and Engineering', L D Miles says
pa ...3

"A product or a service is generally considered to be of good value if that product or service has appropriate performance and cost".

We can draw two important conclusions from that.

ACTIVITY 4
Time guide
4 mins

Draw those conclusions for yourself by completing each of the following statements with a suitable word.

a) Value is always increased by _____ costs provided that the level of performance remains the same.

b) If the customer needs and is willing to pay for better performance, value is increased by _____ _____.

Here is how I would complete those statements. You may not have used quite the same words as me but I hope we can broadly agree on these two important ideas about value.

Value is always increased by decreasing costs provided that the level of performance remains the same.

If the customer needs and is willing to pay for better performance, value is increased by increasing performance.

(Remember when we were looking at the meaning of 'value' we decided that it isn't simply a question of cost but also of usefulness, importance or worth to whoever wants it.)

Before we go on, perhaps you'd like to recap what we've said about 'value' so far by the following self check.

SELF CHECK 1
Time guide
8 mins

Decide whether each of the following three statements is TRUE or FALSE.

a) The best value is whatever you can get at the lowest price.

TRUE/FALSE

b) The value of something to you is the price you paid for it.

TRUE/FALSE

c) The value of something is its importance or usefulness to the customer.

TRUE/FALSE

Complete the following three statements with a suitable word or group of words.

d) Customers assess goods by comparing them against _____, _____ and _____ standards.

e) Provided we maintain the level of performance, we can increase the value of something by _____.

f) We can increase value by increasing performance provided that the customer _____ and _____ _____.

The answer to this self check is here in the following words, so you'll need to check your answers carefully. a) Although cost is an important consideration in getting 'value for money', it is not the only one. Something which is very cheap but does not do what you want or expect is not good value so this statement is false. b) This is false too. The value of something to you may be what you could sell it for or may be something else altogether depending on its usefulness to you. c) The value of something to a customer is determined by how much it is exactly what they need or want as well as by the cost so this statement is true. d) The standards which we use to assess the value of goods to us are specification, cost and delivery. e) We increase the value by reducing the price, provided we maintain the level of performance. f) We can increase value by increasing performance provided the customer wants or needs what we supply and is willing to pay for it.

I think we've established then that, in order to succeed in the long term, businesses have to offer

THE BEST VALUE FOR THE PRICE ASKED

ACTIVITY 5
Time guide
3 min

Suppose you are a manufacturer - it doesn't matter what you make.

Jot down what will make you re-think the prices you charge and the quality of what you supply to your customers.

*

You may have thought of a number of things depending on what manufacturing organisation you had in mind. I hope we can agree, though, that a major influence on your thinking would be

COMPETITION

What is the quality of the goods your competitors are offering? How much are they charging?

In the light of that information you may have to look for ways of reducing your price or improving the level of your performance in order to keep your share of the market.

So we can now say that 'best value' is influenced by two factors:

PERFORMANCE - The product must meet the customer's needs and expectations

COST - The product must be competitive in price

Bearing these considerations in mind, let's return to our thinking about 'value' and decide more precisely what it is as far as the customer is concerned.

ACTIVITY 6
Time guide
2 mins

Here are three situations.

Tick the one in which you think the glass of water has most value.

a) You are very thirsty. You have a glass of lager, a cup of tea and a glass of water available to choose from.

b) You are very thirsty. You only have a glass of water available.

c) You are not very thirsty. You have a glass of water available.

I don't suppose there's much doubt that the glass of water has most value in b). If you are thirsty and therefore need and want a drink and water is all that is available, then its value to you is higher than in the other situations. If you have a choice of drinks or you don't feel thirsty anyway then it has little value.

So we can conclude from that activity that

VALUE DEPENDS ON - how well it carries out its function

how much that function is needed or wanted

what else is available which will carry out the same function

Let's look at one of those situations again.

You're thirsty and you have a number of drinks available, including water, all of which will cure your thirst quite well.

The value of the glass of water will depend on how you rate it in comparison to the other drinks.

So we can now also say

VALUE DEPENDS ON - making comparisons

We have already said earlier in the unit that when we buy something, a washing machine for example, we compare various models against standards of specification, cost and delivery.

That usually gives us a shortlist of possible models from which we make our final choice. Quite possibly all of them will do what we want perfectly well.

ACTIVITY 7
Time guide
2 mins

Suppose you are choosing between three washing machines, all of which seem to meet your specification, cost and delivery standards.

Tick the one you would choose and jot down the reason for your choice.

Model A - made by the same manufacturer who made your refrigerator and vacuum cleaner. Both have been highly reliable for a number of years and the company has a good reputation.

Model B - New model which looks good. Your previous washing machine was made by the same manufacturer and wore out after three years but that model has now been taken off the market and replaced by the one you are currently considering.

Model C - Made in Spain. It looks good but you've never heard of the manufacturer before although you are assured they have supplied parts for several years to manufacturers whom you do know.

*

You could make a reasonable case for choosing any of these but I think most people would probably go for model A whose manufacturer they think they know and think well of - in other words, whom they esteem.

This brings us to the final factor we have to include in our understanding of value - ESTEEM.

How people regard a product may depend on quite a few things which are nothing to do with how well it does the job. These may include:

its reputation

its scarcity

the way it is presented

Any manufacturer has to take the esteem value of its products very seriously - in a competitive market, it can make or break the success of a product.

To sum up then, any product has:

USE VALUE — All the factors which contribute to its carrying out the job the cutomer wants done satisfactorily

ESTEEM VALUE — All the factors which make the products saleable but which don't contribute to how well it does its job.

REFERENCE 2 page 73

L D Miles defines value as

"The minimum cost that must be expended in purchasing or manufacturing, to create the appropriate use and esteem factors".

As you see, 'value' is quite a complex idea and I hope we have demonstrated that any organisation, which hopes to stay in business for long, needs to give it very careful consideration, both in terms of the value it gives its customers and the value it receives itself.

Now try this self check before we go on to look at Value Analysis.

SELF CHECK 2
Time guide 3 mins

Complete the following statements with a suitable word or group of words.

a) Value of something depends on:

how well it _____

how much the customer _____

_____ is available

b) We decide on value by making _____.

c) As well as a use value, most things have an _____ value.

The answer to this self check is here in the following words, so you'll need to check your answers carefully. a) You may not have used quite the same words as me but I hope we agree that value of something depends on how well it carries out its function or performs, how much the customer wants or needs it and what else is available. b) We decide the value of something to us by making comparisons. c) In doing that we will weigh up its use value (all the features which contribute to how well it will serve the prupose we want) and an esteem value (all the features which we may regard highly and for which we want that particular product but which don't affect its performance).

3 Aims of Value Analysis

The main aim of Value Analysis is to reduce unnecessary costs. We may have other aims as well - to satisfy customer requirements more precisely; to improve performance within existing costs or to simplify the manufacturing process perhaps. However, let's now concentrate on the main aim of reducing unnecessary costs. The technique involves examining the product in question, part by part and looking critically at the:

design

materials

production methods

Value analysis:

* measures what an object does and makes sure that it serves just that function and no more than is necessary

* offers an organised system for finding ways of eliminating unnecessary costs without impairing value

* relies on team effort which encourages people to work closely together

We'll look at the technique used more closely in Part B but now let's look for a moment at the question of 'unnecessary costs'.

No workplace is perfect. There are always some unnecessary costs which could be tracked down and eliminated if you look for them.

ACTIVITY 8
Time guide
3 mins

Think about your own workplace for a few moments. Jot down what you think are three major causes of unnecessary cost in your workplace.

* _____

* _____

* _____

Responses to this activity are likely to vary, depending on your experience but I hope we can agree that the causes I've listed below are quite common.

* Lack of a clear understanding of what is required

* Lack of planning

* Lack of training

* Poor communication

* Human errors

* Refusing to listen

* Lack of time 'to do the job properly'

Although we're mainly concerned with Value Analysis in manufacturing industry, I hope we can agree that these causes of unnecessary cost can occur anywhere and at any stage of a job.

Value analysis techniques are usually applied to three main aspects of production:

* design of the product

* purchase of materials

* methods of production

Let's look at each of them briefly and see how unnecessary costs can creep in.

ACTIVITY 9
Time guide
2 mins

Suppose you work on designing a new product - it doesn't matter what it is.

Jot down what you think would be the most important feature of the product as far as you as its designer were concerned.

* _____

_____

Although we may have thought of a number of things, I hope we can agree that, as designer, one of your most important considerations would be that the product worked really well - that it was of high quality and reliability.

To make sure of that, you might tend to use better quality materials and more of them to be on the safe side. If you don't have good co-ordination with other departments such as Purchasing, Sales and Production, it would be all too easy to lose sight of what the business was really trying to do and to design something which was more costly and complicated than it need be.

Now let's turn to Purchasing.

On average, 50% of total maunfacturing cost goes on raw materials so unnecessary costs here can clearly be very substantial.

ACTIVITY 10
Time guide
3 mins

Robert Flint supervises a Purchasing Department. He has several new young staff working for him but he feels that, fortunately, he doesn't have any new products to purchase materials for and he and the suppliers he deals with know the ropes.

Jot down two possible unnecessary costs in this situation.

* _____

* _____

I hope we can agree that:

* Purchasing shouldn't be treated as a routine clerical job which inexperienced staff can tackle. Remember it could be 50% of total manufacturing cost we're talking about.

* Relying on old suppliers means that alternative and perhaps cheaper suppliers are not found.

* If you rely on old suppliers you tend not to query their prices and may be paying an unnecessarily high price.

In addition to these points, a good Purchasing Department needs to be in constant touch with Design and Production and Sales to find out what is really required and to let them know what's available. It should also be looking at ways of reducing the cost of keeping materials before they are needed for production or despatch to the customer. To do that successfully needs constant contact with other departments.

Now let's look at manufacturing.

This is the area where most cost reductions are looked for. Production methods can be examined using Method Study and Work Measurement techniques. If you would like to know more about this you might find it useful to work through another unit in this series - Method Study.

EXTENSION 6
page 72

A Method Study investigation can probably highlight a lot of ways of improving production but manufacturing, like any other function, is continually changing. People come and go, machines are moved or repaired, different materials are used.

Value Analysis allows you to look continuously for ways of eliminating unnecessary cost and looks at the whole process, rather than just one production or unit.

3.1 Savings on materials

Remember we said earlier that, on average, the cost of materials represents about 50% of the total cost of manufaturing something.

Ten years ago the import bill for industrial raw materials into the UK was £8,000 million. Imagine the savings that could be made here if Value Analysis techniques were used to identify even a 1% reduction of unnecessary cost.

ACTIVITY 11
Time guide
5 mins

Suppose you make a number of different products which comprise electronic and mechanical components which you buy in and parts which you make yourself. It doesn't matter what products you have in mind but you could think, for instance, of domestic equipment such as cookers, refrigerators and washing machines where you buy in electronic circuits, timers and clocks etc and make the enamelled cabinets which house the equipment yourself.

Jot down three ways in which you think you might be able to reduce costs on materials.

* _____

* _____

* _____

This is quite a hard question and there's no one right answer. You may have thought of any number of ways of reducing materials costs, depending on your particular experience. Here are my suggestions to compare with yours.

* Look for newer, better or cheaper materials. (Specialist suppliers can be very helpful in finding new materials which suit your requirements which brings us back to what we said earlier about the importance of communication and cooperation between Purchasing and Production.)

* Look at tolerances. Are you being too strict about the precision with which parts are made - the thickness of the enamel on the outer cabinets of domestic equipment for example? If you are this will result in a higher scrap and re-working rate than is avoidable.

* Standardise parts. You can reduce costs if all your models use, as far as possible, the same parts. This will make ordering, scheduling and the use of your own equipemt easier and cheaper.

* Make more ecomonical use of raw materials. For example, re-design the way you cut sheet steel to reduce waste.

* You might be able to eliminate certain parts or combine the functions of two or more if you re-design certain components. Without knowing more about the particular products we have in mind though, this isn't possible to say.

4 Benefits of Value Analysis

I hope what we've said so far has convinced you that many workplaces can achieve very substantial financial benefits from using Value Analysis techniques.

We've already mentioned the elimination of unnecessary costs but you're also likely to find ways of improving the quality and reliability of your product and the use made of materials, equipment and the workteam.

Here's a striking example of what I mean. Value Analysis was applied to some equipment used by the US army. In addition to reduced costs without loss of performance, the following gains were made:

44% of cases resulted in improved reliability
40% of cases resulted in improved ease of maintenance
90% of cases resulted in improved production methods
64% of cases resulted in improved parts availability
38% of cases resulted in improved quality
39% of cases resulted in reduced weight
21% of cases resulted in improved performance

So, in financial terms, Value Analysis can provide

REDUCED COSTS

IMPROVED QUALITY AND RELIABILITY

There's one other important area of benefits which is not so easy to account for in financial terms.

ACTIVITY 12
Time guide
2 mins

Remember we said that Value Analysis looks at the whole process, rather than one unit or department and, to be successful, depends on a team from different parts of the workplace working together and pooling information.

Jot down three possible non-financial benefits which could result from Value Analysis.

* _____

* _____

* _____

Here are some of the benefits which result from Value Analysis which are not so easy to put a figure to but which can be very valuable to the organisation and the people who work there.

* Increased cooperation between different departments and improved communication between them which may lead to simpler and more standard ways of doing things.

* People get to know and understand the problems and constraints of people working in other departments.

* Fresh thinking on the products and services which the company offers. Is it giving its customers, and getting, 'value for money'?

* Everybody involved, in all departments and at all levels, becomes more cost-conscious and is on the look-out for ways of ensuring 'value for money'.

* Everybody involved becomes more aware of the importance of planning the ordering and using of materials to keep down costs rather than just leaving it to Purchasing

* Value Analysis teaches you to think creatively in a disciplined way. Once you get into the habit, all sorts of good ideas can result.

Having said that, however, we have to accept that Value Analysis techniques provide better 'value for money' in some organisations than others.

ACTIVITY 13
Time guide
5 mins

Thinking about what we've said so far, jot down three features of the sort of organisation you think would benefit most from Value Analysis. For example, ask yourself what sort of thing the organisation does or makes. Does it have one product or many? Is it a simple or a complex product? etc

* _____

* _____

* _____

It's quite likely that we've all thought of different things but I hope we can agree that

THE MORE COMPLEX THE SITUATION AND THE HIGHER
THE COSTS, THE GREATER THE POSSIBLE BENEFIT

Here are some of the features I would include on my list.

* Value analysis lends itself to industries such as engineering which assemble products from a number of components.

* The greatest potential savings are in industries where there is a high volume of things produced rather than fewer 'one-off' items

* Value Analysis offers greatest savings in the manufacture of high cost items

* Potential savings are greater if you make a large variety of products and use a wide range of materials. (Remember what we said about the manufacturer of domestic equipment being able to find ways of reducing materials purchase costs by standardising parts.)

* Value analysis is important if you are in a competitive market where price may be critical. If you are not in a competitive field or you make precision scientific instruments, for example, where technical excellence is more important than price, Value Analysis may have less to offer.

SELF CHECK 3
Time guide
10 mins

Complete the following statements with a suitable word or group of words.

a) The aim of Value Analysis is to _____ _____ _____.

b) Value Analysis may also identify ways of improving _____ and _____.

Decide whether each of the following statements is TRUE or FALSE.

c) The greatest savings can usually be made in the use made of the workteam's time.

TRUE/FALSE

d) Value Analysis is applied to one department at a time.

TRUE/FALSE

e) Value analysis is most successfully applied to industries which assemble products from a number of components.

TRUE/FALSE

f) All benefits of Value Analysis are financial.

TRUE/FALSE

g) The benefits of Value Analysis are likely to be high in low cost, low output industries.

TRUE/FALSE

The answer to this self check is here in the following words, so you'll need to check your answers carefully. a) The aim of Value Analysis is to reduce unnecessary costs. b) In addition to this, it may also identify ways of improving quality and reliability. c) The greatest savings can usually be made in the cost of materials which, on average, represent about 50% of total manufacturing costs. Remember though this is an average figure. It may not be the case in your workplace. d) Value Analysis looks at the whole process - design, materials and production - rather than at one department at a time. e) It is true that Value Analysis is most successfully applied to industries such as engineering, which assemble products from a number of components. f) Not all benefits of Value Analysis are financial. You would expect to get an improvement in cooperation and communication between departments, an appreciation of each other's job, an increased awareness of costs and more good ideas generated. In the long term they might even outweigh the immediate financial benefits. g) The opposite is the case. The benefits are likely to be higher in high cost, high output industries.

5 Summary

VALUE FOR MONEY - what we want, when we want it at a price we are prepared to pay

We decide 'BEST VALUE' by making comparisons of:

USE VALUE — the factors which contribute to how well the product does the job

ESTEEM VALUE — the factors which contribute to how highly we regard the product

VALUE ANALYSIS looks at ways of identifying and eliminating unnecessary costs without impairing performance

It is usually applied to:

product design

purchase of materials

methods of production

As well as reducing costs, Value Analysis may:

IMPROVE QUALITY AND RELIABILITY

IMPROVE COOPERATION AND COMMUNICATION

INCREASE COST AWARENESS

Most benefits from Value Analysis are likely to arise in high cost, high output industries which assemble a number of components in a variety of products.

PART B PROCEDURES AND TECHNIQUES

1 Introduction

Having looked at what we mean by 'value for money' and seen how Value Analysis can ensure that we are getting this and giving it to our customers, let's now examine the techniques which are used in Value Analysis.

2 Getting started

Value analysis is based on asking two key questions about the product we're looking at:

WHAT DOES IT DO?
WHAT ELSE WOULD DO THE JOB?

We can't make progress unless we answer these questions honestly and in full. We'll also need some other information too - about costs for example.

The answers to these questions don't just lie in one department. Value Analysis is a team effort.

Here for instance, is a likely team of people from different departments in a manufacturing organisation who could work together on a Value Analysis project.

DESIGN	- for technical specifications of the product
PRODUCTION	- for manufacturing methods and times
PURCHASING	- for bought items and costs
SALES	- for establishing customer needs and references
FINANCE	- for costs of all parts and manufacturing processes.

We can add to that list the VALUE ANALYST, who coordinates the work of the rest of the team.

ACTIVITY 14
Time guide
5 mins

Suppose, then, that we've got our Value Analysis team. We don't know yet what they are going to study. Jot down three of the things they will have to do before they can say that they can confidently say that their efforts have brought about an improvement or a reduction in costs.

* _____

* _____

* _____

You may have thought of a number of things. Perhaps you'll find your answers on this list of the stages of Value Analysis Procedure.

1 Select - which item to study?

2 Gather Information - what do we need to know?

3 Analyse - what does it do? Is it value for money?

4 Speculate - how else could we do it?

5 Assess - what are the alternatives worth?

6 Reach Conclusions - what should we do?

7 Implement - making it work.

8 Evaluate - was it worth doing?

Let's look at each of these in turn.

3 The Stages of Value Analysis

3.1 Select

To justify the time and effort that Value Analysis involves, you want to be able to show a substantial saving or improvement as soon as possible.

ACTIVITY 15
Time guide
5 mins

Here are some descriptions of products.

Decide whether you would or would not select each of them for Value Analysis.

		Yes	No
a)	low cost item		
b)	strong competition for this item		
c)	materials costs are high		
d)	product is easy to maintain		
e)	product is complex and difficult to manufacture		
f)	reduced volume production is forecast		

I hope we can agree that the most likely items for study on this list are b), c) and e).

In addition, we can conclude that

high cost items
items which are difficult to maintain
items where increased volume production is forecast

are also likely to be subjects for study.

3.2 Gather information

Having selected the item for study, we need to gather as much information about it as possible. Everybody in the team will have different information to contribute and all of it is potentially important.

That information falls basically into two types:

HARDWARE
SOFTWARE

Hardware is the actual product or components which it contains and anything else which might have a bearing on our production. Software is the paperwork (written procedures for manufacturing, for example) which gives us a picture of how the product is designed, produced and sold.

ACTIVITY 16
Time guide
4 mins

Jot down two further examples each of possible HARDWARE and SOFTWARE which you feel would contribute useful information about the product. Clue: Look back at the departments likely to be represented on the Value Analysis team and think what each of them could contribute.

HARDWARE _____

_____

SOFTWARE _____

_____

_____

Here are my suggestions, though this is by no means an exhaustive list and you may have thought of other possibilities.

HARDWARE

* the assembled product
* the components which make up the product (perhaps mounted on a board)
* samples of raw materials
* samples of scrap
* samples of competitors' products

SOFTWARE

* technical drawings
* technical specifications (weight, dimensions, appearance etc)
* details of manufacturing processes
* details of raw materials used (waste, possible suppliers etc)
* ordering costs and quantities
* costs of material, labour and overheads.

3.3 Analyse

Having pooled as much information as possible, we now have to make some sense of it all.

Back to our original question.

WHAT DOES IT DO?

To help answer this question rigorously without being side-tracked into thinking about what we hoped it would do or thought it might do, we can apply a simple technique.

This involves writing down two words only for each product or part of a product. So, in answer to our question 'what does it do?' we say:

FIRST WORD - it does
SECOND WORD - what it does.

Thus we could apply this technique to a wrist watch and answer our key question about its function:

FIRST WORD - indicates
SECOND WORD - time

If you look around you at some of the items in the room you can probably see that it takes quite a bit of discipline to reduce your answer to this key question to just two words each time.

You've probably also realised that many items do more than one thing. A wrist watch, for example, as well as indicating time, may also be a piece of jewellery and therefore has a decorative function. (Provides decoration is how we would reduce that function to two words.) Clearly, though, a watch which is pretty but doesn't tell the time isn't much use as a watch.

So as well as describing each function in just two words, we have also to decide whether each function is primary (indicates time) or secondary (provides decoration).

It's possible that we may also have a third class of function - an unnecessary function. A standard 60 watt electric light bulb, for instance, provides light (its primary function). Inevitably it also provides some heat which is unnecessary to its purpose.

Here is a breakdown of the functions of a wrist watch.

PRODUCT		FUNCTION	CLASSIFICATIONS
Wrist watch		Indicate time	Primary function
		Provide decoration	Secondary function
COMPONENT			
1	strap	hold wristwatch	secondary function
		provide decoration	secondary function
2	casing	hold parts	secondary function
		provide decoration	secondary function
3	internal mechanism	compute time	primary function
4	dial	indicate time	primary function
		provide decoration	secondary function

ACTIVITY 17
Time guide
3 mins

Here is an analysis of a hand magnifying glass Complete the analysis of functions in the same way as for the wrist watch on the previous page.

PRODUCT	FUNCTION	CLASSIFICATION
Hand magnifying glass		
COMPONENT		
1 Handle		
2 Frame		
3 Glass		

Here is my analysis to compare with yours.

PRODUCT	FUNCTION	CLASSIFICATION
Hand magnifying glass	Provide magnification	primary
COMPONENT		
1 Handle	provide grip	secondary function
2 Frame	contain glass	secondary function
3 Glass	provide magnification concentrate light	primary function unnecessary

Having carefully defined all the functions of a product we next have to estimate the costs of providing these functions. We do this by finding out the total cost and allocating certain parts of that cost to various functions. Then we compare the costs with what they are actually worth to us.

This may sound complicated but estimating the worth to us of a particular function is something we do quite often in our everyday lives.

ACTIVITY 18
Time guide
3 mins

Which of the following do you think shows more opportunity for you to improve on the value your presently getting? Tick whichever seems more appropriate.

Cost to you = £C
Worth to you = £W

a) £C - £W = £5

b) £C - £W = £25

Perhaps that took a bit of thinking about. I hope we can agree that b) £25 would provide a better opportunity for value improvement. The greater the difference between what something costs you (you, not your customer) and what it is worth to you, the greater the room for value improvement.

3.4 Speculate

Now we can come to the imaginative part of the process. We have to answer questions like:

HOW ELSE COULD WE DO THIS FUNCTION?

WHAT ELSE WOULD DO THE JOB?

But thinking creatively isn't always easy. Indeed, we can often find that it's quite hard to let our imagination have free rein at work.

We'll look at techniques we can use to encourage creative thinking in a few minutes. Suffice it to say, for the moment, that what we are trying to do at this stage is to

IMPROVE THE VALUE OF THE PRIMARY FUNCTION

Quality is our only consideration at the moment - we don't rule anything out on the grounds of cost or difficulty, for example, until a later state.

3.5 Assess

Having collected as many ideas as possible we now have to decide

WHICH WILL WORK?

WHICH WILL SAVE MONEY?

ACTIVITY 19
Time guide
2 mins

Jot down how you could tell whether an idea would work.

You might have made a number of suggestions. Mine would include

* testing out the idea

* seeing if anything similar has been tried before and whether it has worked previously.

ACTIVITY 20
Time guide
2 mins

How could you tell, without actually putting an idea into practice, whether it would save money?

Of course, you can't be absolutely certain until the idea is put into practice, but you can form a pretty good idea of whether something will save money by costing it out.

Ideas which seem feasible (i.e. the team things they are likely to work) are costed and, generally, the idea which will cost least is then focused on for close study. If, on close examination, it doesn't turn out to be such a good idea, the team moves on to the next cheapest and so on.

3.6 Reach conclusions

By this stage the team has answered all the key questions but not actually saved any money yet. A decision has to be reached which is then presented to management, with the supporting evidence and details of the expected savings, in the form of a report.

ACTIVITY 21
Time guide
2 mins

If you were leading a Value Analysis team, which would you think is preferable:

a) to press on and reach a decision which is presented to management within a specified time and which will enable you to achieve 80% of the possible gain now

b) to allow the project to continue for an unspecified period in the hope of achieving 100% of the possible gain as a result of the extra time spent on the project?

I hope we can agree that a) is preferable. If we favour b) it's all too easy for the project to simply peter out and for very few of the potential benefits to be realised.

3.7 Implement

This is the stage at which we get the changes proposed actually brought about.

ACTIVITY 22
Time guide
3 mins

You've got a good idea. You are sure that, technically, it will work and will achieve considerable savings. What is the most important thing you need to make it work?

*

You might have made a number of suggestions including 'time' and 'money' but I hope we can agree that, above all, you need the support and cooperation of the people affected by the change to make any idea work.

Tact, diplomacy and good, clear communication are required during implementation. Here are some points to remember:

* first 'sell' the idea to everybody involved
* draw up an implementation programme with dates
* let everybody know who is responsible and for what
* let everybody know exactly what needs to be done and when
* set target dates for each stage of the change as necessary.

3.8 Evaluate

The Value Analysis team can't rest on their laurels yet. We can usually allow a period, perhaps up to three months, from the implementation date to sort out any problems. After that, we have to ask the question

ARE WE GETTING BETTER VALUE FOR MONEY?

To do this a savings report is prepared which compares previous costs, anticipated savings and actual savings. That report would:

outline the problems
give the relevant facts
give the possible solutions
say which was the preferred solution
emphasise the benefits of the preferred solution
explain what action was needed.

If the anticipated savings are not being achieved, the team has to go back to the drawing board. If they are, the team is usually disbanded and different teams form to tackle other Value Analysis projects.

In that brief look at the stages of Value Analysis study, we've talked in terms of two kinds of thinking

ANALYTICAL and CREATIVE

Both of them are important, so let's look at them in a little more detail now.

EXTENSIONS 1 and 2 page 71

As you will have realised, we have only had scope to deal with the stages in the procedure fairly briefly and we could say a lot more. If you would like to know more and see some more examples of how the techniques have been applied in UK industry then you might like to take up these extensions.

4 Analytical and Creative Thinking

ACTIVITY 23
Time guide
3 mins

Here are three examples of situations where people have to think.

a) Calculating a quantity of goods to be ordered, given information on ordering and holding costs, the rate of usage and ordering procedure.

b) Working out how to encourage more people to come into a shop and spend money.

c) Working out overtime payments due given information about hours worked and rates of pay.

If you had several people tackling these problems, would you expect the solutions they reached to be the same or different?

a) SAME/DIFFERENT
b) SAME/DIFFERENT
c) SAME/DIFFERENT

I hope we can agree that the answers for a) and c) should be the same. Assuming that they know how to do it, people working out the problems of order quantities and overtime would have a mathematical framework to work within and certain facts to work on so they should proceed logically to the same answer.

This is ANALYTICAL THINKING.

Encouraging people to use one shop, however, has no such framework and, although we need some information to get us started, we have to create and imagine some possibilities for ourselves. It's quite likely, therefore, that people will come up with different solutions since there's no predictable right answer.

This is CREATIVE THINKING.

To think creatively we have deliberately to give our imagination free rein, drift, dream and let our brain free wheel. For many of us that goes against years of training, yet it is an equally valid and important way of thinking.

4.1 Barriers to Creative Thinking

ACTIVITY 24
Time guide
4 mins

Jot down four reasons why people may find it difficult or feel unwilling or embarrassed to think creatively at work.

* _____
* _____
* _____
* _____

We've already mentioned training which has encouraged us to think that analytical thinking is in some way better. We can add to that:

* needing the assurance of a 'right answer'

  when you think you've found it you switch off

* refusing to re-think previous assumptions about the problem

* wanting to conform and give the expected answers

* resistance to change - "we've always done it this way before"

* feeling intolerant of new ideas - "That's silly. That won't work"

* being afraid of looking a fool.

To make progress these barriers, and others which you've possibly thought of, need to be broken down so that people are happy to think creatively. This is where a technique called Brainstorming can help.

4.2 Brainstorming

The first thing is to get a group of people together. Although you can think creatively on your own, of course, in the context of work, it helps if there are several people. You're trying to generate as many ideas as possible. For that reason, it also helps to have people from different departments so that you have a variety of background, knowledge and views of the problem.

There are only four basic rules to brainstorming:

* Suspend judgement - don't criticise, don't try to evaluate ideas

* Let yourself go - let your mind free wheel and produce as many ideas as possible

* Go for quantity - generate as many ideas as possible - "let's try to reach a hundred!"

* Cross-fertilise - listen to other people's ideas, combine them with yours or improve on them.

If you are leading a brainstorming session, it helps if you can get everybody warmed up first by getting them to generate ideas in a light-hearted way on something which is nothing to do with work.

ACTIVITY 25
Time guide
3 mins

Be creative!

Spend a couple of minutes thinking of things which you could ask people to find new uses for as part of the warm-up for a brainstorming session. Try to think of at least three.

*

*

*

Of course, it's highly unlikely that we have thought of the same things and your suggestions may turn out to be more productive than mine. However, here are the first five things I thought of

* new uses for a paper clip

* new uses for chewing gum

* new uses for egg boxes

* new uses for cigarette filters

* new uses for car parks

When everybody is warmed up, clearly state your problem. It's highly likely that everybody will know in principle what the problem is but it still helps to have it clearly stated and re-stated during the session as necessary.

Every suggestion that is made must be recorded - good and clear - on a flip chart or overhead projector.

It may help to re-read the suggestions already made when new ideas start to dry up. You can also try launching a really wild idea to get people thinking along new lines.

Brainstorming is a fairly energetic activity!

It's preferable to have fairly short, intensive sessions of perhaps an hour rather than an entire half day.

Now try this self check before we go any further.

SELF CHECK 4 Complete the following statements with a suitable word or group of words.
Time guide
10 mins

a) Value Analysis is a _____ effort.

b) The Value Analyst _____ everybody else's contribution.

c) The eight stages of Value Analysis procedure are:

* _____
* _____
* _____
* _____
* _____
* _____
* _____
* _____

d) Items which are _____ cost and for which there is _____ competition are likely subjects for study.

e) Any component studied may have _____ functions, _____ functions and _____ functions.

f) Each function has to be described in _____ words.

g) To implement changes successfully you need the _____ and _____ of the people concerned.

h) Two types of thinking needed in a Value Analysis study are _____ thinking and _____ thinking.

i) Problems to which there is no one, predictable, right answer have to be solved by _____.

j) The four rules of brainstorming are:

* _____
* _____
* _____
* _____

The answer to this self check is here in the following words, so you'll need to check your answers carefully. a) Value Analysis is a team effort depending on the knowledge and information which each team member can provide. b) Everybody's contributions are coordinated by the Value Analyst. c) The eight stages of Value Analysis procedure are select, gather information, analyse, speculate, assess, reach conclusions, implement and evaluate. d) Value Analysis studies tend to focus on items which are high cost and for which there is strong competition. e) Any component may have primary, secondary and/or unnecessary functions, each of which must be described f) in two words. g) You need the support and cooperation of the people concerned as well as a sound idea. h) The two types of thinking needed are creative and analytical thinking. i) Creative thinking has to be applied to problems which cannot be solved logically because there is no predictable one right answer. j) The rules of brainstorming are to suspend judgement, let yourself go, go for quantity (ie concentrate on thinking up plenty of ideas), cross fertilize (ie listen to and build upon other people's ideas).

EXTENSION 3
page 71

Edward de Bono has done a lot of work on how we think and provides some interesting discussion and further 'food for thought' in one of his books 'Lateral Thinking for Management'.

4.3 Evaluating ideas

Once you are satisfied that you have thought up as many ideas as you reasonably can, you are ready to weigh them up against each other and decide which you are going to pursue further.

ACTIVITY 26
Time guide
2 mins

If you think back to Part A when we discussed how we determine 'value', we said that we judge value by measuring a certain product against _____.

Fill in the missing word.

I hope you used the word 'standards' or something with a similar meaning.

We do the same thing when we evaluate ideas. We measure them against certain standards or criteria which we've already decided upon.

What these criteria are will depend on the particular project but likely criteria are:

* the actual size of the savings anticipated

* the amount of disruption that the changes will involve

* the impact on customer service

* how long it will take to recover the cost of any changes made.

4.3 Ten Tests for Value

We've seen that, by using Group Brainstorming, it's possible to harness and discipline something as apparently random as creative thinking.

The success of Value Analysis depends to a large extent on each of the eight stages of procedure being followed in a thorough and disciplined way.

Let's look at a further technique which will help you achieve this, particularly in the 'speculate' stage.

The General Electric Company in the USA developed Ten Tests for Value which can be summarised as the following ten questions which need to be asked during the 'speculate' stage of the procedure about each component or item being studied.

Ten Tests for Value

* Does its use contribute value to the product?

* Are its costs proportionate to its usefulness?

* Does it need all the features it has?

* Is there anything better available for what we want to do?

* Can we make a usable alternative more cheaply?

* Can we use a standard product?

* Is it made in the right way, on the right machinery bearing in mind the demand?

* Are we satisfied that the total costs of bought out components are reasonable?

* Will another dependable supplier provide it for less?

* Is anybody else buying it for less?

5 Other Devices

Finally, here are some practical hints which should help you to progress your Value Analysis study.

* Avoid generalities - stick to the particular. Literally examine every nut and bolt of the situation and don't be put off by sweeping statements such as 'All our workteams are expert in this field' or 'We are the leading experts in this so we know'

* Collect all available costs - you can't estimate value without accurate, up-to-date costs and a breakdown of what these costs represent.

* Use specialist knowledge - knowledge, techniques and technology is continually changing. Make sure that you're getting the most up-to-date information by making full use of whatever specialists you have available.

* 'Would I spend my money this way?' - when we spend our own money we have in mind a complex balance of the relative use value and relative esteem value of what we're considering. Try thinking about the item you're studying as though it was your own money involved.

* Identify and overcome 'Road Blocks' - don't accept general excuses which effectively block any alternative ways of doing things being considered.

Let's look at the last of these points in a little more detail for a moment.

It's a common failing for people to 'block' new ideas because they've been misinformed, or only partly informed, or they feel threatened by any proposed changes.

ACTIVITY 27
Time guide
4 mins

At work you've probably come across general excuses for 'blocking' a suggested alternative way of doing things.

Here are two such excuses

* 'We've tried that before and it didn't work.'

* 'We're all too busy to do that.'

Jot down three more similar comments which could be 'road blocks' to improvement.

* _____

* _____

* _____

Of course, you may have thought of any number but here are a few which occurred to me.

'We've never needed to do it before.'

'That's not our problem. See so-and-so.'

'What do you know about it - we're the experts.'

'You can't teach an old dog new tricks.'

'We've managed alright without it before.'

'You'll never get management/the unions to agree.'

'Why change, it's never given any trouble.'

'It won't work in this industry.'

SELF CHECK 5 Complete the following statements with a suitable word or group of words.
Time guide
5 mins

a) To evaluate ideas we measure them against _____.

b) Two techniques which help to ensure that creative thinking is thorough and disciplined are _____ and _____ _____.

c) Practical hints for carrying out a successful Value Analysis study include:

* Avoid _____
* Collect information about _____
* Use _____ knowledge
* Ask yourself _____ _____
* Identify and overcome _____ _____

The answer to this self check is here in the following words, so you'll need to check your answers carefully. a) We evaluate ideas by measuring them against standards or criteria which will vary from one project to another. b) Brainstorming and using Ten Tests for Value help to ensure that creative thinking is harnessed to the subject being studied and is thorough and disciplined. c) The practical hints we mentioned were avoid generalities; collect all available information about costs; use specialist knowledge; ask yourself whether you would spend your money that way; identify and overcome 'road blocks' to alternative ideas.

6 Summary

* Value Analysis depends upon a team effort with contributions from a number of departments coordinated by a Value Analyst.

* The eight stages of Value Analysis procedure -

  SELECT
  GATHER INFORMATION
  ANALYSE
  SPECULATE
  ASSESS
  REACH CONCLUSIONS
  IMPLEMENT
  EVALUATE

* ANALYSIS involves identifying each function of a product or component. These functions may be PRIMARY, SECONDARY or UNNECESSARY.

* VALUE ANALYSIS demands CREATIVE and ANALYTICAL THINKING.

* CREATIVE THINKING - no one right answer, needs imagination, ability to free-wheel, dream, speculate

* ANALYTICAL THINKING - needs facts as the basis for thinking, proceeds logically to a predictable right answer.

* BRAINSTORMING and TEN TESTS FOR VALUE give a disciplined framework for creative thinking.

PART C VALUE ANALYSIS IN ACTION

1 Introduction

Having examined the stages in Value Analysis procedure and the kinds of thinking and techniques we need to employ, let's now look at some of the practical issues involved in using Value Analysis in the workplace.

We'll be particularly concerned with two things:

communications and good relations

the organisation needed for Value Analysis to work successfully.

2 Human Relations and Communications

ACTIVITY 28
Time guide
2 mins

Jot down what you think is the one, inevitable outcome of a Value Analysis exercise.

*

Perhaps you were tempted to say something cynical like 'chaos'! Seriously, I hope we can agree that, even though we may have approached the question in different ways, the one certain outcome is 'change'.

It may be a change in the way paperwork is handled, a change in the way something is made, a change of material you use or a change in the product or service which you actually offer.

To bring about change successfully you need the support and cooperation of the people involved in the change. People are often, though not always, resistant to change. It's all too easy for a proposed change to seem like a criticism of, or a threat to, the way they presently work.

ACTIVITY 29
Time guide
2 mins

That being so, jot down three of the qualities which you think the Value Analyst needs to get Value Analysis to work.

* _____

* _____

* _____

Your list could be endless. I would mention

* an ability to get on with people

* an ability to persuade people

* an ability to create confidence in other people

* the ability to communicate clearly

* a willingness to listen

* patience

and that list is by no means complete.

Some people seem to have many of these characteristics by nature but everybody can top up their skills in these areas with training and discipline.

EXTENSION 4
page 71

The problems which change poses in any workplace and some advice on how to lead your workteam through a period of change are dealt with in another unit in this series - Leading Change.

Let's think first about how a Value Analyst can gain the confidence, cooperation and support of those around him by looking at this example.

ACTIVITY 30
Time guide
5 mins

Peter Smith has recently joined the committee of the Parent Teacher Association of his local primary school. Both his children attend the school and he takes a keen interest in their education. The PTA is considering what to do with the money it has raised this year. In the past they have usually bought sports or photographic equipment or supported school club activities. This year they have nearly £2,000 which Peter feels would be best spent on providing some computing equipment for the school. They only have one micro-computer which the top class uses - none of the other children have any time on it.

Peter feels that, nowadays, all children should be able to use computers from an early age and that the school needs more computers and the software to go with them. In his mind, this represents the best value for money as far as the children are concerned.

Some members of the PTA committee do not agree with him and he will have to persuade them if he is to succeed.

What should Peter do to ensure that he makes a favourable first impression on the committee so he is likely to be able to persuade them to his point of view?

Jot down two suggestions.

* _____

_____

_____

* _____

_____

_____

You've probably found from your own experience that first impressions are very important - sometimes out of all proportion to other factors.

So, as a new member of the committee, the first impression or personal impact which Peter makes is likely to carry a lot of weight. The same is true for a Value Analyst trying to 'sell' a new idea to people who possibly don't know him at all or don't know him well.

So, what are we aiming to achieve in our personal impact?

TO BE LIKED

TO CREATE CONFIDENCE.

So the first thing I would put on my list of things Peter should think about in order to create a good first impression is:

* DRESS, APPEARANCE, MANNER - he needs to be well turned-out, clean, tidy and similar in dress and manner to the people he is dealing with. He needs to be interested, relaxed and fairly friendly.

* SOUND CONFIDENT, SINCERE, ENTHUSIASTIC - he can't expect other people to sound convinced by his ideas unless they sound as though they have his whole-hearted support. In addition to that, of course, his ideas need to be put across concisely and clearly.

* LISTEN TO OTHER PEOPLE - he has to be prepared to listen to other people's points of view and to answer them without destructive criticism or argument if he is to gain the committee's respect for his own position.

Remember, so far we're just concerned with the first impression he creates, the personal impact.

Obviously he still has a long way to go in winning them round but creating a favourable first impression will give him, and you or a Value Analyst in a similar situation, a considerable advantage.

2.2 Preparing a Case

The main task is to get the new idea accepted and to make sure the people involved remain persuaded and happy with the changes.

Let's see how that can be done.

ACTIVITY 31
Time guide
4 mins

Let's go back to Peter Smith, trying to persuade his PTA committee to spend this year's funds on computer equipment for the local primary school.

Jot down three things he should do or find out before he presents a case to the committee.

* _____

_____

* _____

_____

* _____

_____

You may have thought of a number of things - those which I suggest aren't necessarily the only ones. However, these strike me as important:

* He should be clear about what he is trying to achieve.

  It's no good arguing for change in general terms. Peter needs to identify his objectives - spell out clearly exactly what he is trying to achieve, the equipment he wants and the applications he sees for it before he can present a clear case.

* Collect all the facts.

  From what we've just said it's clear he needs to gather a lot of information about hardware, software, applications and prices. He'll need to be able to come up with factual answers promptly when committee members question him.

  He also needs to give some thought to what the other committee members currently don't know. Perhaps he will need to explain some fairly basic facts about computers and their possible uses in schools to people who haven't thought about it before. He must make sure he has the information to do that effectively too.

  Discussion is less likely to become emotional if it can be kept to a consideration of facts.

* **Anticipate objections**

People may have quite reasonable objections to his plans as well as less rational fears and misgivings about the whole notion of computers. The more he can anticipate likely objections and find out about likely arguments in casual conversations with committee members, the better his chances of putting his own ideas across in an attractive way which will satisfy and disarm the opposition.

Having done this he is ready to put his case together and actually prepare what he is going to say.

EXTENSION 5 page 71

Actually standing up and arguing a case can be a nerve-wracking experience. Some practical hints on how to cope are dealt with in another unit in this series - Speaking Skills.

Perhaps the key to success is

THINK ABOUT YOUR LISTENERS

Ask yourself questions such as:

Am I going too fast or too slow for them?
Am I explaining things in terms they will understand?
Can I explain this with a sample or an example?

The latter two questions are particularly important when you are dealing with a technical subject (computers for example) which is highly likely to be the case in a Value Analysis exercise.

Perhaps you can work out some further hints on how to prepare and conduct a case from the following activity.

ACTIVITY 32
Time guide
10 mins

Here are some comments which Peter made at the meeting where he made the case for buying computers for the school.

Beside each one, jot down what you think he is doing which is likely to persuade people to his point of view.

I've done the first one to get you started.

a) 'We're all concerned with providing the best we can for our children and making sure that they have the skills and experience they'll need in the future.'	Establishing common ground with his listeners
b) 'I agree with you that new sports equipment is very important. I would certainly support you in proposing that we buy the school some next year.'	
c) 'Children seem to take to computers like ducks to water. They very quickly become competent using a keyboard and pick up binary mathematics without any difficulty - skills which will stand them in good stead whatever they do in the future.'	
d) 'Right, I'll have a word with the supplier tomorrow and arrange for him to visit the school this week.'	

Here are my responses to that activity to compare with yours. Of course, on such brief extracts, it's possible that we interpreted the situation somewhat differently and the points we've made may not be quite the same.

a) 'We're all concerned with providing the best we can for our children and making sure that they have the skills and experience they'll need in the future.'	Establishing common ground with his listeners
b) 'I agree with you that new sports equipment is very important. I would certainly support you in proposing that we buy the school some next year'.	Agreeing where he can. It's more constructive and diplomatic than simply demolishing somebody else's argument and leaves the opponent room to change his mind without seeming to lose face.
c) 'Children seem to take to computers like ducks to water. They very quickly become competent using a keyboard and pick up binary mathematics without any difficulty - skills which will stand them in good stead whatever they do in the future'.	Stress the benefits of the idea rather than just the means.
d) 'Right, I'll have a word with the supplier tomorrow and arrange for him to visit the school this week.'	Take prompt follow-up action. Even good ideas can be killed off by inactivity.

These are all hints which apply equally to a Value Analyst so let's just sum them up here.

ESTABLISH COMMON GROUND

AGREE WHERE YOU CAN

LEAVE THE OPPOSITION ROOM TO CHANGE THEIR MINDS

STRESS THE BENEFITS

FOLLOW UP PROMPTLY

We've mentioned already the importance of listening to what other people have to say. Getting people talking and listening to what they say can tell you a lot about them as well as informing you of any facts of which, perhaps, you were unaware.

You can often identify two kinds of barrier to understanding from what they say and the way they said it:

LANGUAGE BARRIERS

EMOTIONAL BARRIERS

ACTIVITY 33
Time guide
4 mins

Here are some comments which Peter listens to at the meeting.

Decide whether you think each one indicates an emotional barrier or a language barrier and jot down a few words to describe what you think the problem is.

a) 'But do the children need to know anything about biannual mathematics? After all, they're still very young.'	LANGUAGE/EMOTIONAL
b) 'But if we have a new computer won't it mean getting a lot of electrical work done - special circuits and so on?'	LANGUAGE/EMOTIONAL
c) 'I don't know why we're worrying about all this technical rubbish. You said yourself the computers will be out-of-date in five years. Why bother in the first place?'	LANGUAGE/EMOTIONAL

Here are my comments on that activity. Don't worry if your choices aren't the same as mine. Language barriers and emotional barriers are often closely tied up and we all tend to become defensive when we are not sure of our ground.

a) 'But do the children need to know anything about biannual mathematics? After all, they're still very young.'	LANGUAGE The speaker doesn't know anything about binary mathematics. This should be a warning light to Peter - perhaps he ought not to have used a jargon term or, having used it, he should explain in very simple terms why it's important that the children know about it.
b) 'But if we have a new computer won't it mean getting a lot of electrical work done - special circuits and so on?'	LANGUAGE Peter could tell from this that the speaker needs a lot more information about computers before their understanding of the situation is more or less similar.
c) 'I don't know why we're worrying about all this technical rubbish. You said yourself the computers will be out-of-date in five years. Why bother in the first place?'	EMOTIONAL An apparently difficult argument to answer. But Peter could tell from expressions like 'technological rubbish' that this speaker needs tactful persuading and reassurance as much as an answer to his question.

Overcoming these barriers is no easy task. Any Value Analyst in a similar situation needs

PATIENCE
A GENUINE INTEREST IN OTHER PEOPLE'S POINTS OF VIEW

2.3 Overcoming Objections

No matter how well-prepared your case or good your arguments, there are almost bound to be some objection to new ideas.

So here, to finish this section, is a list of hints on dealing with objections.

*	LISTEN -	hear the objector out. That gives him the opportunity to 'let off steam'.
*	ASK A QUESTION ABOUT THE OBJECTION -	that gives you an opportunity to answer the question rather than having to take the objector on head-on.
*	USE SUPPORTING EVIDENCE FROM OTHERS -	try to avoid over-ruling objections single-handed. Use the evidence of neutral third parties to support your point of view.
*	USE TODAY'S OBJECTIONS TOMORROW -	identify objections which recur and make sure you deal with them first when you next present your case.
*	KEEP YOUR TEMPER -	goes without saying!

I can't emphasise the importance of good communication and good relations in the workplace too strongly.

Value Analysis techniques and procedures are fairly easily mastered but the success of its application to real life problems depends very much on the Value Analyst's ability to persuade other people to his way of thinking.

Perhaps you'd like to firm up your understanding of this section by the following Self Check before we go on.

SELF CHECK 6 Decide whether each of the following statements is TRUE or FALSE.
Time guide
4 mins

a) The inevitable outcome of Value Analysis is change. TRUE/FALSE

b) People are always resistant to change. TRUE/FALSE

c) Personal impact means how forcefully you can present an argument. TRUE/FALSE

d) Communicating effectively depends upon putting your case clearly. TRUE/FALSE

Complete the following statements with a suitable word or group of words.

e) Before you present a case you should _____ objections.

f) Barriers to understanding can be _____ barriers or _____ barriers.

g) When persuading people to accept your point of view you should:

* establish _____ _____
* _____ where you can
* leave the opposition room to _____ _____ _____
* stress the _____
* _____ _____ promptly.

The answers to this self check are here in the following words, so you will need to check your answers carefully. a) Assuming the study is actually completed, change in one form or another is the inevitable outcome of Value Analysis. b) This is not necessarily true. It's a common tendency to resist change and should be anticipated but it isn't always the case. c) This is false. Personal impact is the first impression that you make on people which can sometimes be overwhelmingly important. d) Although putting your case clearly is important, communication is a two-way process and it's equally important to listen to and interpret what other people are saying. This statement is false. e) Before you present a case you should anticipate objections. f) Barriers to understanding can be language barriers or emotional barriers. g) The practical hints to help you persuade other people are to establish common ground; agree where you can; leave the opposition room to change their minds; stress the benefits; follow up promptly.

3 Organising for Value Analysis

As we've already seen, Value Analysis provides a systematic way of looking at costs in relation to functions right across the workplace. A Value Analysis study involves people from a number of departments and cuts across the usual boundaries between one department and another.

Clearly, it takes careful and sensitive organisation to be successful. Let's look at some of the factors which need to be taken into account.

3.1 The Right Climate

Value Analysis can only be successful if the climate is right. That is, if the working atmosphere is confident, cooperative and willing to cope with new ideas.

ACTIVITY 34
Time guide
2 mins

Although what creates the 'climate' at work is a very complex issue, who do you think is ultimately responsible for the feelings of confidence, enthusiasm, support, willingness to change etc?

*

You may have thought about management, the workteams, the unions - even the government. I hope we can agree, though, that senior management have a large part to play.

As far as Value Analysis is concerned, whole-hearted senior management support is essential to sustain the commitment and enthusiasm needed to see a project through.

ACTIVITY 35
Time guide
3 mins

Suggest two ways in which senior managers can show their support to the Value Analysis team.

* _____

* _____

_____

There are a number of things you could have mentioned. Here are some of them:

* coming to meetings occasionally to keep up to date on the project

* asking for reports and being willing to discuss them

* making information, equipment and time available to the team

* speaking up for the VA team's decisions at management meetings.

We have already mentioned 'commitment' once or twice. What do we mean by that?

* Commitment of time and concentration

  Value Analysis involves systematic and detailed investigation which is difficult to fit in in your spare moments between other jobs. As it covers the whole range of work carried out, you need in-depth knowledge of the workplace and contacts inside and outside the company. Although everyone can contribute, VA efforts need to be led by a specialist.

* Commitment to team work

  Real success depends on the whole-hearted support and interest of all departments involved and a genuine willingness to work together to think up and try out new ideas.

* Commitment to getting the job done

  Perhaps you have found that it is hard to maintain interest and enthusiasm in a project which drags on endlessly. For best results, Value Analysis projects need to be carried out quickly and intensively. We may be talking about as little as two months from start to implementation.

3.2 The Right Organisation

Supposing that we have management support and a general willingness among the staff to give Value Analysis a try, how do we organise it?

We've already established that we need a team drawn from various departments and a team leader or co-ordinator.

ACTIVITY 36
Time guide
5 mins

Suggest two different ways in which the team and the leader can operate.

Should they all be employees of the company?

Should they be full-time or part-time members of the team?

Jot down what you think are the main advantages or disadvantages of each of your suggestions.

Here's an example to get you started.

* Full-time leader and team.

*

*

*

Perhaps this activity made you think about a number of issues to do with team working and job pressures.

There isn't necessarily one right answer to this question: what suits one company may not suit another.

In practice, you're likely to find one of the four following ways of organising the Value Analysis effort.

* Full-time leader and team.

  No problem about commitment of time or divided interests or loyalties but there is the danger that a full-time group becomes 'just another department' and loses some of its creative energy.

* Full-time leader, part-time team.

  In this set-up the team is selected for particular projects and operates as and when needed. The disadvantages are that new part-time members have to be trained in VA techniques and procedures each time and it may be difficult to 'free' their time from their normal duties. On the other hand, it gives the opportunity for plenty of people to become involved in Value Analysis which may be a useful career development and, as we've seen, the skills of creative and analytical thinking can well be applied to other aspects of their jobs.

* Consultant leader (from outside the company), part-time team.

  Bringing in an outside consultant enables a fresh outlook to be taken on a problem. The disadvantage is that it is expensive to operate this way unless the consultant is paid partly by the results achieved.

* Part-time leader, part-time team.

  This is probably the least satisfactory way of organising Value Analysis and requires the least commitment from the company. It's all too easy for the group's activities to peter out as a result of pressure from more immediate demands.

  If this approach has to be adopted, then the leader needs to come from a department which is fairly free from routine, daily pressures and where people have some opportunity to organise their own time. Somebody from Production, for instance, would be very hard-pressed to make available the uninterrupted periods which Value Analysis needs.

The size of the team depends upon the size of the company and the cost implications of a particular project. What is important to every Value Analysis team is that it has:

* EASY ACCESS TO SENIOR MANAGEMENT
* A GOOD SPREAD OF KNOWLEDGE AND EXPERIENCE
* SUITABLE MEMBERS

What do we mean by 'suitable members'.

ACTIVITY 3/
Time guide
4 mins

Think back over what we've said in the unit so far about what Value Analysis involves. Jot down four characteristics which you would look for in possible team members if you were setting up a Value Analysis team.

* _____

* _____

* _____

* _____

Here are the characteristics I would mention, drawn from what we've said so far. This list is not exhaustive - your experience may have led you to note other equally important features.

* ability to think creatively

* ability to be realistic

* willingness to give things a try

* ability to get on well with people

* cost consciousness

* persistence in following-up ideas.

It also helps if, as far as possible, you can draw people from the same level in the company.

Having selected the team, they need to be trained. This is best done on a 'whole team' basis and it's important that practical as well as theoretical sessions are included. Perhaps one of the company's products can be used as the basis for practical sessions and, with any luck, the savings identified will cover the cost of training!

Finally, it's important that, once training is complete, the group is able to go into action immediately.

What projects the Value Analysis team undertakes depends on the needs of the particular workplace but typically they would tackle:

* analysis of existing products and services
* analysis of new products and services
* advisory service to the Buying Department
* advisory service to suppliers
* training in Value Analysis methods for other staff - no company can afford to be without creative, cost-conscious staff.

SELF CHECK 7
Time guide
5 mins

Complete the following statements with a suitable word or group of words.

a) Before Value Analysis can succeed it must have the whole-hearted support of _____ _____.

b) Value Analysis demands commitment of _____, commitment to _____ _____ and commitment to _____ _____ _____ _____.

c) The four most likely arrangements for Value Analysis work are

_____ _____ leader, _____ _____ team

_____ _____ leader, _____ _____ team

_____ _____ leader, _____ _____ team

_____ leader, _____ _____ team

d) Every Value Analysis team needs:

_____ _____ to senior management

a good spread of _____ and _____ suitable _____.

The answers to this self check are here in the following words, so you will need to check your answers carefully. a) A pre-requisite of successful Value Analysis is the whole-hearted support of senior management. b) It demands commitment of time or concentration, commitment to team work and commitment to getting the job done. c) Value Analysis can be organised in a number of ways, each with their own advantages and disadvantages. The likely arrangements are: full-time leader, full-time team; full-time leader, part-time team; part-time leader, part-time team; consultant leader, part-time team. d) Every Value Analysis team needs easy access to senior management, a good spread of knowledge and experience (you may also have used words like 'skill', 'expertise', 'understanding') and suitable members.

4 Summary

* The success of Value Analysis depends on

  - GOOD COMMUNICATION

  - GOOD WORKING RELATIONSHIPS

* A Value Analyst team member needs:

  to be able to communicate clearly

  to get on with people

  to inspire confidence and enthusiasm

  to listen

  to think creatively

  to be cost conscious

  to be patient and persistent.

* To succeed Value Analysis needs:

  THE RIGHT CLIMATE

  - the support and enthusiasm of senior management and a willingness to try new ideas

  THE RIGHT ORGANISATION

  - for the company. This can be configured different ways but it needs a trained, committed co-ordinator and team drawn from a wide number of functions.

* Value Analysis teams - ANALYSE new and existing products

  ADVISE on buying and suppliers

  TRAIN other staff in Value Analysis methods.

PART D PERFORMANCE CHECKS

1 End Check

Time guide 60 mins

You may review your understanding of the Unit as a whole by completing this group of questions. DON'T GUESS THE ANSWERS - if you are unsure, flick back into the Unit and check before responding.

If you are still unsure put a question mark against your response before proceeding.

TRUE/FALSE

Respond to each statement by writing either TRUE or FALSE in the space provided.

1 Value Analysis aims to eliminate unnecessary costs, whilst retaining full value to the customer. _____

2 A typical cost breakdown for a product would be 25% for raw material costs, 25% for direct labour and 25% overheads. _____

3 Value Analysis is a team effort. _____

4 High cost, high volume items are usually chosen for Value Analysis study. _____

5 In analytical thinking, we cannot expect a predictable answer. _____

6 In general, most people are enthusiastic about change. _____

7 There are two sets of barriers in any face to face discussion, they are language barriers and emotional barriers. _____

8 It is not really important to obtain top management support in any VA activity as they are rarely involved in the actual conducting of the exercise. _____

COMPLETION

Respond by completing each sentence with a suitable word or words.

9 We can classify the value of a product under two headings, namely, its _____ value and its _____ value; the former is associated with the function it will perform whilst the latter is a measure of its saleability.

10 Unnecessary costs can occur in any part of the workplace. In making any product, there are three main areas where they are most likely to occur, these are in the _____ of the product, in the purchase of materials and in the methods of _____.

11 The VA procedure can be seen as 8 different stages of activity. These are 1) Select (the items to be studied); 2) Gather Information (about the item) 3) Analyse (what it does and its value for money); 4) _____ (to generate new ideas); 5) Assess (the worth of these ideas); 6) Reach _____ (as to what should be done); 7) Implement (get it done) and 8) Evaluate (expected benefits).

12 The functions of a product can be classified as primary, secondary or _____.

13 A group brainstorming session consists of a number of individuals meeting together to think up as many _____ as possible, good or bad, which may provide _____ to the problem in question.

14 The personal impact which we make on other people is very much dependent upon _____ _____.

15 Good communication involves as much _____ as talking.

16 Value Analysis is not a simple procedure - it is complex enough to require a specialist, _____ _____ leader.

17 Value Analysis demands commitment of time, commitment to getting the job done and, in addition, calls for _____ work.

MULTIPLE CHOICE

Respond to each question by putting a mark against the ONE answer which is most correct.

18 Value Analysis aims to:

a) substitute cheaper alternatives for existing products

b) reduce the cost of a product by using cheaper and perhaps lower quality raw materials

c) identify and eliminate unnecessary costs without impairing essential quality, reliability and saleability of a product

d) change the methods by which a product is made.

19 One of the benefits of using Value Analysis in any workplace would be:

a) a reduction in the amount of paperwork involved

b) an increased awareness of costs, at all levels and across all departments

c) greater freedom and flexibility for the operator at his workplace

d) less supervision required.

20 The prime function of an electric toaster in a Value Analysis exercise would be defined as:

a) prepare food (toast)

b) provide heat

c) grill bread

d) defrost bread (frozen).

21 In order to create the right climate within which a brainstorming group can develop ideas freely, one of the important things is

a) to provide lots of food and drinks at the meetings

b) hold the meetings after the normal working hours

c) not to allow any 'wild' ideas to interrupt the process of analysis

d) to withhold judgement and evaluation and allow as many 'wild' ideas as possible.

22 The 'Ten Tests for Value' developed by the General Electric Company of the USA are essentially

a) 10 different ways in which 'value' can be measured

b) guidelines in the form of 10 questions which focus attention on particular aspects of the product which could lead to savings or less cost for the same function

c) 10 different ways the value of a product is ascertained each being based upon a given set of assumptions, which may or may not be appropriate in all circumstances

d) are recommended guidelines for interpreting the meaning of the word 'value'.

23 One of the important things to bear in mind when trying to persuade others to your way of thinking is

a) to give clear instructions as to what you would like to see being done

b) to leave no reason for any doubts or discussion, clearly written communication is absolutely essential and effective

c) to create a climate of total confidence and authority on your part so that your ideas are accepted without question

d) to carefully prepare the ground in terms of collecting your thoughts, to foresee the objections likely to be raised and to positively sell the benefits of your proposal.

24 From a Value Analyst's point of view, good communications means

a) putting across information factually and unemotionally, listening carefully and showing patience and interest in the other person's viewpoint

b) keeping everyone well informed of his intentions and making sure they are all fully aware of it

c) conducting meetings regularly with the team, deciding what needs to be discussed and running the meeting in a thoroughly professional manner

d) keeping everyone in the workplace fully informed of the successes that he and his team are achieving from their projects.

24 The least satisfactory way of setting up a Value Analysis team is to have

a) full-time leader and a team

b) full-time leader and a part time team

c) consultant (external) leader with a part-time team

d) part-time leader with a part-time team.

END CHECK - Checkout

Audio Tape Side 2 Time guide 35 mins

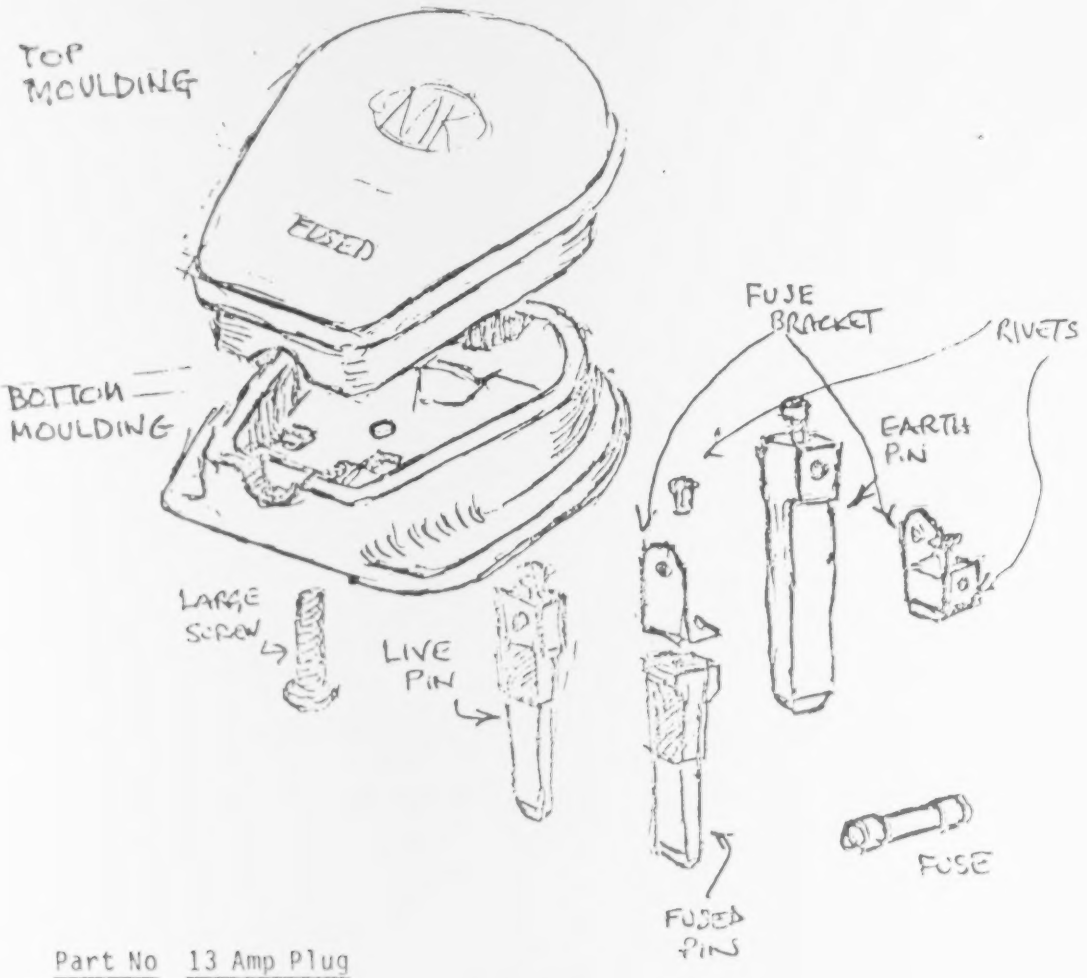
The answers and explanations for these End Checks are on Side 2 of our Audio Tape. Have your responses with you are you play this tape. As you listen you can check out how well you have done and make notes as you proceed.

2 Tutor Check

Time guide 60 mins

Read the following case incident, then deal with the accompanying questions.

Here is an opportunity to apply some of the ideas we have been discussing about the technique of Value Analysis to a specific problem. Suppose you are a member of a Value Analysis team which was carrying out a study on a typical household product, a three pin electric plug. Here is a detailed diagram of the particular plug you are looking at. You might also find it useful to take apart an actual electrical plug. You'll probably find that there are a large number of different designs. (Some have already been Value Analysed!)



Part No	13 Amp Plug	
1301	Top Moulding	1 Off BO
1302	Bottom Moulding	1 Off BO
1303	Earth Pin	1 Off MI
1304	Live Pin	1 Off MI
1305	Fused Pin	1 Off MI
1306	Fuse Bracket	2 Off MI
1307	Rivets	2 Off BO
1308	Screws	3 Off BO
1309	Fuse	1 Off BO
1310	Large Screw	1 Off BO

MI - Made In
BO - Bought Out Part

Questions

You only need to write ONE or TWO sentences against each question.

a) List the principal steps involved in the VA exercise for this electric plug.

b) As a member of the Value Analysis team what information would you expect to collect during the information gathering stage? Jot down briefly why you would need the items of information you suggest.

c) Identify and classify the functions of the 'plug' and its individual components into primary, secondary and unnecessary functions. Present your results in the form of a table.

d) Select any one component of the plug, and suggest some alternative ways of accomplishing its function(s). Do not assess your ideas, but simply list as many as you can.

Send to Tutor

Now get your answers to your study tutor either by post or handing it over personally. You will received your tutor's assessment and comment back through the post as soon as can be managed.

3 Work Based Project

Time guide 60 mins

As a supervisor you will be controlling some resources (i.e. workteam, machines or materials) or at least responsible for some aspects of activities in your workplace.

a) Identify any areas associated with your work, where you can see unnecessary costs or wastage occurring or where you feel the present situation can be improved. Draw up a list if there are several.

b) Select one problem from your list (which seems to you important or serious) and assume that you intent to use 'group brainstorming' to obtain better value for money. Who should be included in this study group and why? What would be your timetable of activities for running the brainstorming session?

c) Identify any practical problems which you can foresee in using the brainstorming techniques. Jot down suggestions to overcome them.

Send to Tutor

Now get your answers to your study tutor either by post or handing it over personally. You will receive your tutor's assessment and comment back through the post as soon as can be managed.

PART E UNIT REVIEW

1 Return to Objectives

Now that you have completed your work on this unit, let's review each of our four unit objectives. I'll repeat them and add some comments.

You should be better able to:

* **UNDERSTAND WHAT 'VALUE FOR MONEY' MEANS**

We have explored the different meanings attached to the word 'Value'. In the case of a product we saw that it represented appropriate performance at a given cost. In practice we saw that giving good value for money meant that a product had to maintain a high as possible ratio of use and esteem value to the costs of producing the article. If you are able to apply this principle to all you activities, by either decreasing your costs or increasing your performance, you will be making a great contribution to providing this 'good' value for money that your workplace charges for its products or services. Seeing all your problems in this light will considerably improve your effectiveness as a supervisor.

* **APPRECIATE THE LOGICAL PROCEDURES INVOLVED IN USING VALUE ANALYSIS TECHNIQUES**

We've examined the stages in Value Analysis procedure and felt, I hope, that the technique itself is fairly straightforward. The effectiveness in practice comes from how rigorously each of the eight stages is worked through. VA does not need to be restricted to complex product applications; even relatively simple tasks benefit from its systematic analytical procedures. Some of the stages, such as determining 'functions' of parts or products, and assessing their worth compared to their costs, or developing alternative solutions through group brainstorming sessions can be applied to any kind of activity. Once you have mastered the discipline of VA procedure you'll find you can apply it to all sorts of problems in the workplace.

* **IDENTIFY SITUATIONS WHERE YOU COULD USE VALUE ANALYSIS TECHNIQUES IN YOUR WORK AREA**

We have mentioned several typical applications to Value Analysis in the unit. If we're concerned with a product we can use it to study an existing product or one which is proposed. We can also use the same technique to focus on design, purchasing, production or office procedures. Value Analysis isn't only useful in manufacturing or construction industry - you can use it equally well if you provide a service, indeed, wherever 'value for money' is important.

Although everybody's job is different, I hope you have been able to identify something in your workplace which you feel would benefit from Value Analysis.

* ASSESS AND ACCOUNT FOR SOME OF THE PRACTICAL PROBLEMS AT YOUR WORKPLACE WHEN INTRODUCING THESE TECHNIQUES

We saw that putting into action the decisions reached as a result of a study means change, which always needs to be carefully and tactfully handled.

An awareness of the importance of good communications and an appreciation of the importance of good relations with the people affected by change is just as important as an understanding of analytical techniques.

Without the support and cooperation of people in the workplace, even the best new idea has little chance of success.

I hope the work you have done on this unit was enjoyable and useful enough to encourage you to continue with your studies.

2 Extensions

There are several books written on the subject, most of them written for the specialists or the executive in business. You will find the ideas that were briefly explained in this Unit, developed further in the texts that I have listed below. I am sure the extra time and effort you spend on reading them will prove very worthwhile.

EXTENSION 1 Book: Value Analysis

Author: W. L. Gage

Publisher: McGraw Hill, Maidenhead 1967

This is a British book, intended for practising managers responsible for controlling costs. Examples of working documents and the application of the technique within UK industry are given.

EXTENSION 2 Book: Profit Improvement by Value Analysis, Value Engineering and Purchase Price Analysis

Author: A. D. Raven

Publisher: Cassell, London 1971

A useful book based on the author's personal industrial experience in the field. It provides sound practical advice in Value Analysis procedure.

EXTENSION 3 Book: Lateral Thinking for Management

Author: Edward de Bono

Publisher: Pelican, 1982

This provides some useful background material and includes a good discussion on brainstorming.

EXTENSION 4 Choice Series Unit 15: Leading Change

Author: Y Carlisle

Publisher: Northern Regional Management Centre.

EXTENSION 5 Choice Series Unit 61: Speaking Skills

Author: Diana Thomas

Publisher: Northern Regional Management Centre.

EXTENSION 6 Choice Series Unit 33: Method Study

Author: Robert Twitty

Publisher: Northern Regional Management Centre.

These extension opportunities can all be taken up via your Support Centre. They will either have the materials or will arrange that you have access to the materials. However it may be more convenient to check out the materials with your Personnel or Training people at work - they may well give you access. There are other good reasons for approaching your own people, for example they will become aware of your interest and you can involve them in your development.

3 References

REFERENCE 1 and 2

Book: Techniques of Value Analysis and Engineering

Author: L. D. Miles

Publisher: McGraw Hill, New York 1972.

As mentioned earlier, this is a fairly comprehensive but useful reference book with several illustrations given in every chapter. Don't read the book right through, but dip into it for a wider treatment of the topic raised by the Unit. For non-manufacturing people, the illustrations may appear biased, but the explanations are fairly clear and appropriate.

This reference can be taken up via your Support Centre. They will either have the material or will arrange that you have access to it. However check out initially with your personnel or training people at work. They may well give you access and, by being made aware of your interest, would be prepared to assist you in your development.

THE CHOICE SERIES

PRINCIPLES AND PRACTICE OF SUPERVISION

11 Needs and Rewards
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